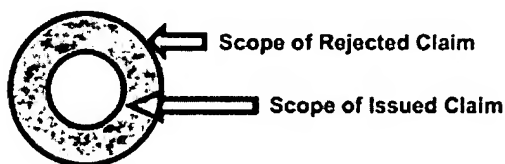


## REMARKS

Claims 11-22 have been rejected as being an improper recapture of broader subject matter surrendered in the application for the patent upon which the present reissue is based (U.S. Patent No. 6,034,423; hereinafter “the ‘423 patent”). Claim 23 was not identified in the final office action – however, for the purpose of responding to the outstanding office action – it is presumed that claim 23 was intended to be rejected on the same basis as claims 11-22.

After reviewing the ‘423 patent, case law, and the MPEP, it is respectfully submitted that claims 11-23 as presented, do not improperly recapture subject matter surrendered during prosecution of the original application. Reconsideration is respectfully requested in light of the following remarks.

According to the MPEP 1412.02, an Applicant may recapture claimed subject matter in a reissue application so long as the subject matter was not surrendered in an application to obtain the original patent. More specifically, MPEP 1412.02 (I)(C)(2)(d) states that claims that are broader than the issued claims, **but narrower in relevant part than** the cancelled claims in the original application, are **not** barred by the recapture rule. This section is supported by *Ex Parte Eggert* where the court made a distinction between the scope of rejected claim and the scope of issued claim by stating in pertinent part:



**Drawing 1**

“The shaded area between the circles represents subject matter which is only narrower than the scope of the rejected claim but only broader than the scope of the issued claim. In our view, the surrendered subject matter is the outer circle of Drawing 1 because it is subject matter appellants conceded was unpatentable. The subject matter of the shaded area was not subject to the administrative

examination process as the examiner was never directly presented with a claim falling within the scope of the shaded area ... and therefore, in our view, such subject matter is not barred by the recapture rule.” (Ex Parte Eggert, 67 USPQ2d 1716, 1717) (emphasis added)

The question before the Patent Office is whether the subject matter in claims 11-23 improperly recapture a claim scope that was cancelled during prosecution of the original application. More specifically, the subject matter at issue here relates to the scope of the “contacts” element as recited in claims 11, 19 and 23 of the reissue application. The claimed “contacts” correspond to the “leads” element recited in claim 1 of the ‘423 patent. It is respectfully submitted that independent claims 11, 19 and 23, as currently pending, do not improperly recapture subject matter relating to the contacts that was surrendered in the application for the patent upon which the present reissue is based.

#### CLAIMS 11-18

Original claim 1 of the application that matured into the ‘423 patent recited an integrated circuit package that includes a lead frame comprising the following limitations:

a die attach platform;  
*a plurality of elongated leads which are electrically isolated from said die attach platform*; and  
a first bus bar which is electrically isolated from said die attach platform and said plurality of elongated leads. (*emphasis added*)

As shown above, original claim 1 recited a plurality of elongated leads. The claim did not further define the leads beyond requiring that the leads be electrically isolated from the die attach platform. In an amendment dated July 8, 1999 the language of claim 1 relating to the leads was amended to further recite that each of the leads included “a circular portion formed as an attachment pad.”

In contrast, claim 11 as presently presented recites an integrated circuit package that includes a lead frame that has:

a die attach platform,  
a plurality of contacts that are spaced apart from the die attach platform  
and  
a bus bar that is positioned between the die attach platform and at least  
some of the contacts,  
wherein *bottom surfaces of the die attach platform, the contacts, and the  
bus bar are substantially co-planar*, and  
wherein *each of the contacts includes a portion that forms an  
attachment pad ...*  
*whereby the attachment pads are exposed at a bottom surface of the  
package.*  
(emphasis added)

Claim 11 as presently presented is attempting to recapture subject matter that is **narrower** than claim 1 of the '423 patent application as filed before claim 1 was amended during prosecution to include the circular attachment pad feature. Specifically, claim 11 of the reissue application requires that the contact pads (which generally correspond to the leads element in claim 1 of the '423 patent) each include "a portion that forms an attachment pad." As described in the specification, the attachment pads provide a surface that solder bumps can attach to. The "attachment pad" feature was added to claim 1 of the '423 patent in the amendment dated July 8, 1999. As pointed out in the office action, the language added to claim 1 set forth that the leads included "a circular portion formed as an attachment pad."

Claim 11 as currently presented retains the attachment pad limitation – but seeks to broaden the scope of the attachment pad term by eliminating the requirement that the attachment pad have a circular portion. In that sense, claim 11 does seek to broaden the scope of the attachment pad feature that was added during prosecution of the original patent application. However, it does not seek to recapture the full scope of original claim 1 which did not require any attachment pad whatsoever. Further, claim 11 as presently presented includes additional claim elements that are related or relevant to the attachment pad feature that further narrow the scope of the claim relative to the original scope of claim 1. For example, claim 11 specifically requires a protective casing that covers a die and the lead frame while leaving bottom surfaces of the die attach platform, the bus bar and the conductive contacts exposed. With this arrangement

the protective casing is exposed at a bottom surface of the package to physically isolate the bus bar from at least some of the conductive contacts.

It is noted that the casing clause of claim 11 has been amended somewhat herein. Specifically, it has been amended (a) to make clear that the protective casing is exposed at the bottom surface of the package (as opposed to the bottom surface of the lead frame as previously recited); and (b) to explicitly recite that the attachment pads are exposed on the bottom surface of the package. The requirement that the attachment pads are exposed on the bottom surface of the package further emphasizes another aspect in which the scope of the attachment pad limitation of claim 11 is narrowed relative to claim 1 as originally filed. Both of these limitations substantially narrow the scope of the claim relative to the scope of original claim 1 and both emphasize that the attachment pads (i.e., the feature at issue) are exposed on the bottom.

From the foregoing, it should be apparent that Applicant is not attempting to recapture the scope of the contacts as broadly as recited in claim 1 in the '423 patent application as originally filed. Rather, the subject matter of claim 11 as presently presented is in between the scope of the issued claim (i.e. claim 1 of the '423 patent as issued which required that the leads including a circular portion formed as an attachment pad) and the claim as originally filed (i.e. claim 1 of the application that matured into the '423 patent as originally filed which did not require that the leads include attachment pads). This places claim 11 as presently presented squarely within the boundaries set forth in MPEP 1214.02(I)(C)(2)(d) and *Ex Parte Eggert*, and therefore it is respectfully submitted that claim 11 should **not** be barred by the recapture rule.

It is noted that the outstanding office action appears to take the position that the shape/structural limitation "circular portion formed as an attachment pad" was the critical distinguishing feature of the allowed claims. This position is respectfully traversed. Although the benefits of the circular portions of the attachment pads were certainly pointed out in the remarks section of the amendment filed on July 8, 1999 – it is respectfully submitted that the

remarks do not state that the circular nature of the attachment pads is critical to all aspects of the invention. Accordingly, it is respectfully submitted that the amendments and comments made in the response filed July 8<sup>th</sup> should not invoke the recapture doctrine in a manner that precludes allowance of claim 11 or the claims that depend therefrom.

Finally, it is noted that claim 11 has been amended herein to require that the protective casing be exposed at a bottom surface of the package (as opposed to the bottom surface of a lead frame) and to add the whereby clause indicating that the attachment pads are also exposed at the bottom surface of the package.

#### CLAIMS 19-22

Claim 19 as presently presented recites an electronic module comprising a printed circuit board having a ground and an integrated circuit package with the following limitations:

a lead frame including a die attach platform and *a plurality of contacts, wherein bottom surfaces of the die attach platform and the contacts are substantially co-planar*, the die attach platform being directly electrically connected to the ground on the printed circuit board;

a die carried by the die attach platform, the die having a plurality of signal pads that are electrically connected to at least some of the contacts, and at least one ground pad that is electrically connected to the die attach platform; and

*a protective casing covering the die and the lead frame while leaving bottom surfaces of the die attach platform and the conductive contacts exposed*, wherein encapsulation material that forms the protective casing is exposed at a bottom surface of the package to physically isolate the die attach platform from at least some of the conductive contacts, and *wherein the exposed bottom surfaces of the contacts form attachment pads. (emphasis added)*

Similar to claim 11, claim 19 is also attempting to recapture subject matter that is **narrower** in relevant part than original claim 1 of the '423 patent application. Specifically, claim 19 requires that the bottom surfaces of the contacts be exposed through a protective casing to form attachment pads. As described in the specification, the attachment pads provide a surface that solder bumps can attach to. As discussed above with respect to claim 11, the "attachment pad" feature was NOT present in original claim 1 of the application that matured into the '423 patent.

Rather, that general feature was later added in the amendment dated July 8, 1999. In that amendment, the language added to claim 1 set forth that the leads included “a circular portion formed as an attachment pad.” Claim 19 as presently presented still retains the attachment pad limitation on the contacts. Claim 19 only seeks to broaden the scope of the attachment pad feature by eliminating the requirement that the attachment pad include a circular portion. Therefore, it is respectfully submitted that claim 19 as currently presented does not seek to recapture the full scope of original claim 1 in the original application which did not require any attachment pad whatsoever.

Additionally, claim 19 as currently pending requires both: (a) that the bottom surfaces of the contacts (from which the attachment pads are defined) be co-planar with the bottom surface of the die attach platform; and (b) that the bottom surfaces of the contacts be exposed through a casing to form the attachment pads. Neither of these features are required by issued claim 1 of the '423 patent and neither were required by original claim 1 of the application that matured into the '423 patent. Thus, it is respectfully submitted that claim 19, as currently pending does not come close to recapturing the scope of the leads feature of original claim 1 of the application that matured into the '423 patent.

In view of the foregoing, and in accordance with MPEP 1214.02(I)(C)(2)(d) and *Ex Parte Eggert*, it is respectfully submitted that the scope of the contacts element in claim 19 should not be barred by the recapture rule.

Additionally, it is noted that claim 19 is directed towards a very different feature than the bus bars recited in original claim 1 of the application that matured into the '423 patent. Specifically, claim 19 as presently presented requires that the die attach platform be used as a ground electrode. At least one ground pad on the die is electrically connected to the die attach platform, and the die attach platform is electrically connected to ground. Since claim 19 is directed towards a very different feature (the ground electrode) than claim 1 of the application

that matured into the '423 patent (the bus bars), it is respectfully submitted that the recapture rule should not be applicable to claim 19 for this reason as well. Thus, it is respectfully submitted that the pending rejections of claim 19, and claims 20-22 that depend therefrom, should be withdrawn for this reason as well.

Finally, it is noted that like claim 11, claim 19 has been amended to require that the protective casing be exposed at a bottom surface of the package (as opposed to the bottom surface of a package).

#### CLAIM 23

Claim 23 generally has a scope that is similar to claim 11 discussed above but further requires that the integrate circuit package be attached to a substrate by soldering the attachment portions of the lead frame to the substrate. Therefore, it is respectfully submitted that claim 23 does not violate the recapture rule for at least the same reasons set forth above with respect to claim 11.

Like claim 11, claim 23 has been amended to require that the protective casing be exposed at a bottom surface of the package (as opposed to the bottom surface of a package).

#### CONCLUSIONS

In view of the foregoing, it is respectfully submitted that none of the pending claims should be barred by the recapture rule and that the outstanding rejections of the claims should be withdrawn.

Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,  
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